Building a Laboratory Information Management System *)
by

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Audience:
GUI Application Developers, All Levels

Abstract:
We present an overview of a custom Laboratory Information
Management System (LIMS). This system is designed to automate
sample tracking, analysis and reporting for radiological and
chemical analysis of environmental monitoring and hazardous
waste samples. After evaluating several commercially available
LIMS, we decided to build the Sample Tracking, Analysis and
Reporting System (STARS) using INGRES Windows 4GL/OPENROAD.
This combination provides performance, flexibility, and
robustness as dictated by our user requirements. Requirements
also dictate that this system facilitate compliance with a variety of
government regulations. This Motif based STARS runs on a Sun
Sparcserver 1000 under Solaris 2.5. We will discuss the modules
that we have successfully implemented and the Ingres features
we have used.

Biographies:
Marilyn A. Pickens is a Computer Scientist at LLNL. She has
worked in the computer field for 23 years, with the last 6 years in
database design and application development. Marilyn earned
her B.S. degree in Computer Science from California State
University, Hayward. She has supported many multi-disciplinary
projects at LLNL, including Earth Sciences, Nuclear Test, Treaty
Verification, Hazardous Waste Management, Radiation Analytical
Sciences and currently functions as Computational Program
Leader for the Chemistry & Materials Science (C&MS)
Environmental Services Program.

Marianne R. Shaieb is a Computer Scientist at LLNL. She has
worked in the database field for the last 9 years, with a focus on
database design and application development. Marianne earned
her B.S. degree from California State University, Chico in both

Computer Science and Information Studies. Her minor is in Business Administration. Marianne has provided design and programming support to the following LLNL programs: Laser Isotope Separation, Hazardous Waste Management, Radiation Analytical Sciences and currently to the C&MS Environmental Services Program, where she has been a project leader.

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